REMARKS

Reconsideration of the above-identified application is respectfully requested. Claim 1 has been amended and Claims 2-21 have been added by way of this amendment. In an Office Action mailed June 7, 2004, Claim 1 was rejected under 35 U.S.C. § 112(2) for being indefinite, was rejected under the judicially created doctrine of obviousness -type double patenting and was rejected under 35 U.S.C. § 102(b) as being anticipated by Tobias, II et al. (U.S. Patent No. 5,388,264). This Amendment amends Claim 1 and adds additional claims that overcome the § 112(2) and § 102(b) rejections. In addition, a Terminal Disclaimer in compliance with 37 C.F.R. § 1.321 is being filed simultaneously with this Amendment. Accordingly, pursuant to 37 C.F.R. § 1.111 and for the reasons set forth below, applicants request reconsideration and allowance of this application.

I. Applicants' Invention

Applicants' invention is a user-friendly visual programming system with a graphical user interface (GUI) that allows a user to visually create multimedia programs, such as an animation program, in real-time by defining relationships between the data input and output, such as audio input and visual output, regardless of what the type of such data input and output may be. Audio input and visual output are represented in the GUI by transmit controls and receive controls, respectively. To define a relationship between audio input and visual output, the user links the desired transmit control representing the audio input to the desired receive control representing the visual output, without determining if the type of audio input represented by the transmit control is compatible with the type of visual output represented by the receive control. Thus, after creation of the link, the visual output changes in real-time as the audio input represented by the linked transmit control changes.

The relationship between the transmit and receive controls (and thus, the relationship between data input and output) depends upon the conversion of raw input data into normalized

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data, which can be used by the transmit and receive controls; and the conversion of the normalized data back into raw output data. More specifically, a receive control translates raw input data into normalized data, thus changing the normalized data of the linked receive control. The receive control translates the changed normalized data back into raw output data. Consequently, as the raw input data, the raw output data changes in real-time.

The following is an example of a practical application of this data conversion and the linked relationship between data input and data output. As shown in FIGURES 6 and 7 of the present application, if a "down-up" transmit control representing the "down-up" input of a mouse is linked to a "down-up" receive control representing the "down-up" output of an animated pair of eyes displayed on the visual display, the eyes move up and down on the visual display simultaneously with the up and down movement of the mouse as the raw data from the mouse is converted into raw data which can be output by the visual display. Alternatively, or in addition to, the "down-up" transmit control could represent an audio input from a MIDI input device. Accordingly, if a "down-up" transmit control representing the audio input from a MIDI input device is linked to a "down-up" receive control representing the "down-up" output of an animated pair of eyes displayed on the visual display, the eyes may also move up and down on the visual display simultaneously with the increase and decrease in volume of the audio input as the raw data from the MIDI input device is converted into raw data which can be output by the visual display. Thus, via the linked relationship between the data input of the MIDI input device and the data output of the animated eyes, the user can dynamically control the position of the animated eyes in real-time by changing the volume of the audio input. It follows that any data input(s) may be linked to any data output(s) and processed in this manner to control any data output without being limited by data type compatibility. In fact, the only limitation is the processing power of the computer utilized. Accordingly, this flexibility in real-time processing

of multiple data types gives the invention the capacity to implement a broad array of practical applications and results in more that a simple manipulation of abstract ideas.

II. Rejection of Claim 1 Under 35 U.S.C. § 112(2)

Claim 1 has been amended to remove the phrase "or the like," which was objected to by the Examiner. Moreover, this phrase does not appear in any of the newly added Claims 2-21. Accordingly, applicants respectfully request that this rejection be withdrawn.

III. Rejection of Claim 1 under 35 U.S.C. § 102(b) as anticipated by Tobias, II et al.

In the Office Action, Claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by Tobias, II et al.. It is asserted the Office Action that Tobias, II et al. teach each element of Claim 1. Applicants respectfully disagree that Tobias, II et al. teach each element of Claim 1, as amended.

Tobias, II et al. teach a system for connecting a MIDI object to various multi-media objects to enable an objected-oriented simulation of a multi-media presentation. However, connecting such objects requires that a data type negotiation protocol be conducted when two ports are asked to connect to ensure that the ports are capable of supporting compatible data types. See column 9, lines 16-27 and column 10, lines 55-67. Consequently, each time any objects are linked, Tobias, II et al. require that it be confirmed that the data types of these objects be compatible, otherwise an "exception" must be generated. See column 9, lines 22-27 and column 10, lines 64-65. In contrast, Claim 1, as amended, recites "linking at least one transmit control to at least one receive control *without determining if the type of audio input . . . is compatible with the type of visual output.*" Accordingly, Claim 1 is patentably distinct from the teachings of Tobias, II et al.

Further, Claim 1 as amended specifically recites that the visual output changes in *real-time* by changing the audio input. Tobias, II et al. do not teach, describe or suggest

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changing the visual output in real-time by changing the audio input. Accordingly, applicants respectfully submit that Claim 1 is allowable over Tobias, II et al. for this reason as well.

IV. New Claims 2-21

A. Claims 2-8

New Claims 2-8 depend from Claim 1 and thus, include all of the limitations of Claim 1. Accordingly, applicants respectfully submit that Claims 2-8 are allowable for the same reasons as Claim 1. In addition, Claims 2-8 include a myriad of recitations not disclosed, taught or suggested by any of the cited references, particularly when these recitations are considered in combination with the recitations of Claim 1. For example, Claim 5 recites creating a translation calculation for translating the audio input into normalized data, and Claim 6 recites creating a translation calculation for translating the normalized data into visual output. As yet another example, Claim 7 recites linking at least one transmit control to a plurality of receive controls. Meanwhile Claim 8 recites linking a plurality of transmit controls to at least one receive control. None of the cited art teaches, describes or suggests such features. Accordingly, applicants respectfully submit that Claims 2-8 introduce no new subject matter and are allowable.

B. Claims 9-13

Independent Claim 9 is similar to independent Claim 1, except that it specifically recites that the output of an animation program (rather than a "visual output") is generated in real-time. Accordingly, applicants respectfully submit that Claim 9 is allowable for the same reasons as Claim 1.

New Claims 10-13 depend from Claim 9 and thus, include all of the limitations of Claim 9. Accordingly, applicants respectfully submit that Claims 10-13 are allowable for the same reasons as Claim 9. In addition, Claims 10-13 include a myriad of recitations not disclosed, taught or suggested by any of the cited references, particularly when these recitations are considered in combination with the recitations of Claim 9. For example, Claim 12 recites

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linking at least one transmit control to a plurality of receive controls. Meanwhile Claim 13 recites linking a plurality of transmit controls to at least one receive control. None of the cited art teaches, describes or suggests such features. Accordingly, applicants respectfully submit that Claims 10-13 introduce no new subject matter and are allowable.

C. Claims 14-21

Independent Claim 14 is similar to independent Claim 1, except that it specifically recites translating the input data into normalized data, translating the normalized data into output data associated with an animated image, and causing an animated image to change in real-time in reaction to the input data that is translated into the output data. Accordingly, applicants respectfully submit that Claim 14 is allowable for the same reasons as Claim 1. In addition, none of the cited references teach providing normalization and causing an animated image to change in real-time as recited in Claims 14. Accordingly, applicants respectfully submit that Claim 14 is allowable.

New Claims 15-21 depend from Claim 14 and thus, include all of the limitations of Claim 14. Accordingly, applicants respectfully submit that Claims 15-21 are allowable for the same reasons as Claim 14. In addition, Claims 15-21 include a myriad of recitations not disclosed, taught or suggested by any of the cited references, particularly when these recitations are considered in combination with the recitations of Claim 14. Accordingly, applicants respectfully submit that Claims 15-21 introduce no new subject matter and are allowable.

V. Nonstatutory Double Patenting Rejection

A Terminal Disclaimer in compliance with 37 C.F.R. § 1.321(c) is being filed simultaneously with this Amendment. Accordingly, applicants respectfully request that the nonstatutory double patenting rejection be withdrawn.

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V1. Comments Regarding Newly Cited Reference

Applicants thank Examiners Mistry and Bayer for the personal interview conducted on November 16, 2004. In the personal interview, Examiner Bayer suggested that Applicants review U.S. Patent No. 5,969,716 to Davis et al. Applicants have reviewed the Davis et al. reference and have formally cited the Davis et al. reference in an Information Disclosure Statement filed concurrently herewith.

Applicants note that the Davis et al. reference suffers similar deficiencies as the Tobias II et al. reference. More specifically, Davis et al. require a data-type negotiation to be conducted to process different types of data. In other words, Davis et. al. is data type dependent. For example, as stated in the abstract of the Davis et al. reference:

> Existing media signals are processed to create new media content by defining content representations for the existing media and establishing functional dependencies between the representations. The content representations constitute ***different data types*** *which determine the* ***kinds of operations*** *that can be performed and dependencies that can be established.*

In addition, it is stated in the Summary of Invention at Column 2, lines 55-60 that:

> *Depending upon the* ***particular data type*** of the content representation, different kinds of information can be obtained about the media, and *different types of operations* can be performed on this information and the media it is functionally dependent upon.

As further stated in the Summary of Invention at Column 3, lines 33-38:

> The functional dependency network provides a functional structure, or template, which outputs the ultimate media production. To this end, a multiplicity of ***different media parsers and media producers*** *are*

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*employed to respectively process **different types of media signals and different data types** for the content representations.*

In contrast, independent Claims 1, 9 and 14 recite an invention that is data type independent. For example, Claim 1, as amended, requires that a transmit control be linked to a receive control or related to a receive control "*without determining if the type of audio input . . . is compatible with the type of visual output.*" Accordingly, independent Claims 1, 9 and 14 are patentably distinct from the teachings of Davis et al.

VII. Closing

In view of the foregoing, it is believed that the present application is now in condition for allowance. Reconsideration and reexamination of the application as amended are requested, and allowance of Claims 1-21 at an early date is solicited. If the Examiner has any questions, he is invited to call applicants' attorney at the number listed below.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid and addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the below date.

Date: Dec. 6, 2004 Sheila B. Wing

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